

REMARKS/ARGUMENTS

Favorable reconsideration of the present application is respectfully requested.

Responsive to the rejection under 35 U.S.C. §112, the claims have been amended to delete the recitation that the mixed molten salt in the electrolyte may be solidified in the hydrogen fluoride gas feed line. Claims 1, 4 and 6 have also been amended to recite that the inert gas substitution means substitutes an inert gas for the hydrogen fluoride gas “in order to prevent a negative pressure in the hydrogen fluoride gas feed line.” It is respectfully submitted that this does not raise a new issue since it merely states an advantage that flows from the inert gas substitution means.

Claims 1, 4 and 6 have also been amended to recite that the inert gas substitution means is provided for eliminating the hydrogen fluoride gas remaining in at least part of said line on a side downstream from said first automatic valve on said hydrogen fluoride gas feed line “while the hydrogen fluoride gas inlet is disposed in the electrolyte in the electrolytic bath.” It is also respectfully submitted that this does not raise a new issue since it merely confirms the prior recitation that the hydrogen fluoride gas inlet is disposed in the electrolyte in the electrolytic bath.

Claims 1-9 were again rejected under 35 U.S.C. §103 as being obvious over Tojo et al in view of Saito et al. Part of the rationale supporting this rejection is that Tojo et al already purges the HF line with an inert gas, when the liquid level in the cathode chamber 7 is equalized using the port 14 (col. 9, lines 38-50). It is again respectfully submitted, however, that this is factually incorrect.

Applicants had previously traversed this point by noting that the claims recite that the hydrogen fluoride gas inlet is disposed in the electrolyte in the electrolytic bath and that, so long as this is the case in Tojo et al, the purge gas from the port 14 cannot reach the

submerged HF gas inlet, whereby the port 14 cannot be a part of a “means for eliminating the hydrogen fluoride gas remaining” in the HF gas line.

The outstanding Office Action has responded to this argument on two bases (p. 9): (1) that the claims do not require that the inlet of the HF gas line be immersed in the electrolyte when purging occurs; and (2) that the inlet of the HF gas line in Tojo et al will become exposed to the purge gas as the electrolyte level falls from the level of Fig. 4.

As to the first of these points, the claims had already recited that the hydrogen fluoride gas inlet is disposed in an electrolyte in an electrolytic bath, and there should be no need to confirm that this is true when purging occurs. Nonetheless, the claims have now been so amended. As to the second of these points, while the inlet of the HF gas line in Tojo et al may become exposed to the purge gas as the electrolyte level falls from the level of Fig. 4, in this case it will no longer be disposed in an electrolyte in an electrolytic bath.

Thus, in no case is there an inert gas substitution means in Tojo et al for eliminating hydrogen fluoride gas remaining in the HF gas feed line while the hydrogen fluoride gas inlet is disposed in the electrolyte in the electrolytic bath. Accordingly, Tojo et al could not provide one skilled in the art with a motivation for a modification to do so.

In fact, only the present application teaches a motivation for one skilled in the art to eliminate the HF gas remaining in the HF gas feed line while the hydrogen fluoride gas inlet is disposed in the electrolyte in the electrolytic bath, and to substitute an inert gas therefor on the occasion of interruption of hydrogen fluoride gas feeding: i.e., in order to prevent a negative pressure in the hydrogen fluoride gas feed line that could draw in the electrolyte, which may become solidified.

According to the Office Action (p. 10, top paragraph), Tojo et al does in fact teach a motivation to prevent the electrolyte from being drawn into the HF gas feed line because it provides pressure equalization for the cathode and anode chambers when the fluid level in the

cathode chamber becomes excessive (Fig. 4). However, this respectfully traversed. The pressure equalization in Tojo et al is described as the correction of “an abnormal liquid level” (col. 9, line 27), and not as a step taken out of concern for the electrolyte entering the HF gas feed line on the occasion of interruption of HF gas feeding. In fact, there is no description in Tojo et al expressing a concern for the electrolyte entering the HF gas feed line due to negative pressure on the occasion of interruption of HF gas feeding.

Also, according to the Office Action (p. 10, bottom paragraph), all that is done by the invention is to “lower the level [of] the electrolyte so that [the] electrolyte would not get into the HF feed line, which is done by the purging action of Tojo.” However, while lowering the level of the electrolyte bath in the cathode chamber 7 of Tojo et al will also lower the level of the electrolyte in the HF gas feed line, this is not described as a desirable result of the level equalization, and it does so in a substantially different way than the inert gas substitution means of the invention.

Finally, as Applicants had previously argued, Saito et al does not teach a system having an electrolyte bath. Instead, Saito et al purges the reactant gas lines with inert gas (N_2) to prevent environmental pollution as the reaction vessel is returned from a vacuum to atmospheric pressure. That is, N_2 gas is introduced into the reaction tube when it is in a vacuum state. Therefore, the problem of backflow and solidification of a liquid due to a negative pressure downstream of the cut-off valves VB1-VB2 would not arise in Saito et al, and an inert purge gas introduced into in the reaction chamber of Saito et al could reach any portion of the reaction gas line downstream of a cut-off valves VB1-VB2.

Applicants therefore believe that the present application is in a condition for allowance and respectfully solicit an early notice of allowability.

Respectfully submitted,

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